

Appl. No. 09/900,087
Amdt. Dated 03/18/2005
Reply to Office action of 11/18/2004

REMARKS/ARGUMENTS

This Amendment is in response to the Office Action mailed November 18, 2004. The Examiner is thanked for the thorough examination of the subject application. In the Office Action, claims 1-7 and 14-20 have been allowed. Applicants have not altered these claims, and hence, subsequent amendments and remarks are solely directed to the remaining pending claims.

For this amendment, claims 8, 10-12, 21 and 24 have been amended. Claims 22-23 have been cancelled without prejudice. Claims 26-34 have been added.

Claim Objections

Claims 12 and 24 are objected to because of informalities. The claims recite the term "Fourier transform." While such terminology is correct, for clarity purposes, Applicants have agreed to alter the terminology as "inverse Fast Fourier transform." Hence, withdrawal of the objection is respectfully requested.

Rejections Under 35 U.S.C. § 102

Claims 8-12 were rejected under 35 U.S.C. § 102(e) as being anticipated by Schill (U.S. Patent No. 6,751,267). Moreover, claims 21-24 were rejected under 35 U.S.C. § 102(e) as being anticipated by Humphrey (U.S. Patent No. 6,130,918). Applicants respectfully traverse both of these rejections because a *prima facie* case of anticipation has not been established.

As the Examiner is aware, to anticipate a claim under 35 U.S.C. § 102(b), Schill must teach every element of the claim. "A claim is anticipated only if each and every element as set forth in the claim is found, either expressly or inherently described, in a single prior art reference." Verdegaal Bros. v. Union Oil Co. of California, 814 F2d 628, 631, 2 USPQ2d 1051, 1053 (Fed. Cir. 1987). Applicants respectfully submit that a *prima facie* case of anticipation has not been established because neither Schill nor Humphrey, teaches each and every element set forth in the above-identified claims.

A. CLAIMS 8-12 REJECTION

Schill teaches peak-to-average reduction of OFDM signals. In fact, the carrier signal that significantly contributes to the peak of the waveform is shaped by a different pulse than other carrier signals (sub-carriers). In contrast with the claimed invention, where pre-IFFT processing is used for the purpose of power spectral shaping using a wave shaping filter in order to alter power levels of side lobes associated with resultant sub-carrier signals, Schill is merely directed to a technique for reduction of the peak to average of the signal.

In summary, Schill does not teach performing frequency domain modification on said input frame of data *samples through use of a wave shaping filter to result in power spectral shaping of said modulated multi-carrier signal* through alteration of power levels of side lobes

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associated with resultant sub-carrier signals. Emphasis added. Therefore, withdrawal of the §102(b) rejection is respectfully requested.

B. CLAIMS 21-25 REJECTION

Humphrey teaches time domain processing, where one aspect involves "Peak/Trough Detector" and "Selection Processor" and another aspect involves "Peak/Trough detector," "Divide by 2," and a "Subtraction." Similar to Schill, Humphrey is directed to Peak to Average reduction of OFDM signals while the claimed invention involves spectral shaping of a multi-carrier signal (e.g., OFDM signal).

Hence, Humphrey offers no teaching of performing time domain modification of said carrier signals *to conduct spectral shaping of and to form said modulated multi-carrier signal*, said time domain modification comprises (i) increasing a frequency resolution of the plurality of carrier signals, and (ii) using a *spectrum filter to perform spectral shaping* of said modulated multi-carrier signal. Emphasis added. Therefore, withdrawal of the §102(e) rejection is respectfully requested.

Rejection Under 35 U.S.C. § 103

Claim 13 was rejected under 35 U.S.C. § 103(a) as being unpatentable over Schill in view of Rapeli (U.S. Patent No. 6,167,237). Applicants respectfully traverse the rejection because a *prima facie* case of obviousness has not been established.

As the Examiner is aware, to establish a *prima facie* case of obviousness, three basic criteria must be met. First, there must be some suggestion or motivation, either in the references themselves or in the knowledge generally available to one of ordinary skill in the art, to modify a reference or to combine reference teachings. Second, there must be a reasonable expectation of success. Finally, the prior art reference (or references when combined) must teach or suggest all of the claim limitations. See MPEP §2143; see also *In Re Fine*, 873 F. 2d 1071, 5 U.S.P.Q.2d 1596 (Fed. Cir. 1988). Herein, at a minimum, the combined teachings of the cited references do not describe or suggest all the claim limitations set forth in newly amended claim 8. Applicants respectfully request the Examiner to reconsider and withdraw the §103(a) rejection.

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Conclusion

In view of the remarks made above, it is respectfully submitted that pending claims 1-21 and 24-34 define the subject invention over the prior art of record. Thus, Applicants respectfully submit that all the pending claims are in condition for allowance, and such action is earnestly solicited at the earliest possible date. The Examiner is respectfully requested to contact the undersigned by telephone if it is believed that such contact would further the examination of the present application. To the extent necessary, a petition for an extension of time under 37 C.F.R. is hereby made. Please charge any shortage in fees in connection with the filing of this paper, including extension of time fees, to Deposit Account 02-2666 and please credit any excess fees to such account.

Respectfully submitted,

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Dated: 03/18/05

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